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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,714	03/21/2001	Valeric Descamps	32976-256844	5839

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ATLANTA, GA 30309

EXAMINER
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MCINTOSH III, TRAVISS C

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 10/02/2003

21

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/787,714

Applicant(s)

DESCAMPS ET AL.

Examiner

Traviss C McIntosh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 and 11-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other:  |

### **DETAILED ACTION**

The Amendment filed July 21, 2003 has been received, entered into the record, and carefully considered. The following information provided in the amendment affects the instant application by:

Claims 1-6 and 8-10 have been canceled.

Claims 11-21 have been added.

Remarks drawn to rejections of Office Action mailed March 25, 2003 include:

Claim objections: which have been overcome by applicants' amendments and have been withdrawn.

112 2<sup>nd</sup> paragraph rejections: which have been overcome by applicants' amendments and have been withdrawn.

103(a) rejection: which will be addressed below.

An action on the merits of claims 7 and 11-21 is contained herein below.

The text of those sections of Title 35, US Code which are not included in this action can be found in a prior Office action.

### ***Claim Objections***

Claims 12-15 are objected to because of the following informalities: the structures for formulas I and II are blurry and difficult to read. Additionally, none of these claims ends in a period. Appropriate correction is required.

Applicant is advised that should claim 12 be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an

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application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). In the instant case, claim 12 depends from claim 7, and claim 13 depends from claim 11 which depends from claim 7. Claim 11 limits the degree of polymerization of claim 7 from 4-100 to 4-20 fucose units. Claims 12 and 13 limit their respective claims to having a degree of polymerization of 4, thereby both claims are drawn to the identical method.

Likewise, applicant is advised that should claim 14 be found allowable, claim 15 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof for reasons correlative to those set forth supra. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7 and 11-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is indefinite wherein the claim is drawn to “a method of treatment for protection of a plant comprising...”, yet there is nothing indicated in the claim as to what the plant is being

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protected from. A claim is indefinite wherein it does not set forth that which applicant intends as their invention by distinctly pointing out in clear and concise terms exactly that which protection is sought. Does applicant intend to treat the plant to protect the plant from dying, protect the plant from root rot, protect the plant from being stepped on? Clarity is respectfully requested.

Claims 16, 17, 19, and 20 are indefinite as it is unclear as to how the process for making an active agent would in turn patentably affect the process of using the identical active agent which was produced by a different means. The recitation in a dependent claim of the source of an active agent to be used in a method from which said claim depends, wherein the "source of the active agent" does not result in a patentably distinguishable methodological and manipulative difference in how said active agent's source impacts the method from which it depends, renders the claim(s) in which it occurs and which depend therefrom indefinite for failing to distinctly articulate how such a recitation further limits the method from which said dependent claim(s) applicant regards as the invention.

All claims which depend from an indefinite claim are also indefinite. *Ex parte Cordova, 10 U.S.P.Q. 2d 1949, 1952 (P.T.O. Bd. App. 1989).*

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7 and 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Adachi et al. (US Patent 5,588,254) and Matta et al. (US Patent 5,438,124).

Claim 7 of the instant application is drawn to a method of protecting a plant comprising administering a composition comprising a sulphated fuco-oligosaccharide in an aqueous solution of at least 10 mg/l of a sulphated fuco-oligosaccharide which has a degree of polymerization from 4 to 100. Claim 11 limits the sulphated fuco-oligosaccharide to having a degree of polymerization of from 4-20. Claim 12 and 13 limit the sulphated fuco-oligosaccharide to the specific 4-mer of formula I. Claims 14 and 15 limit the sulphated fuco-oligosaccharide to the specific 6-mer of formula II. Claims 16, 17, 19, and 20 provide limitations as to how the

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sulphated fuco-oligosaccharide was produced, which is of no patentable import to the method of using the sulphated fuco-oligosaccharide as claimed. Claims 18 and 21 limit the plant to a tobacco plant.

Adachi et al. teach of a method for cultivating plants comprising using a growth accelerating oligosaccharide obtained by the decomposition of a polysaccharide (abstract). Adachi et al. teach the plants which are suitable for treatment include green plants (column 2, lines 16-22). One of the oligosaccharides contemplated by Adachi et al. is the decomposition product of fucoidan or fucan sulfuric acid. The saccharide component is taught to be fucose and the fucoidan oligosaccharide is taught to be effective when the degree of polymerization is from 2-10 (column 8, lines 5-14). What is not taught by Adachi et al. is that the fuco-oligosaccharide is sulphated, to treat a tobacco plant, nor to use a sulphated fuco-oligosaccharide composition which has a concentration of at least 10 mg/l of the sulphated fuco-oligosaccharide.

Matta et al. is cited to show that fucoidan is a sulfated polymer of L-fucose which contains repeating subunits of 2-O-alpha-L-fucopyranoside with sulfate groups located on either C-3 or C-4 positions (column 10, lines 55-59).

It would have been obvious to one of ordinary skill in the art at the time of the invention to administer a sulphated fuco-oligosaccharide composition of Adachi et al. which has a concentration of 10 mg/l to protect a plant as Adachi et al. teach that their sulphated fuco-oligosaccharide having from 2-10 monomer units is effective in promoting growth of a plant (which protects the plant from not growing at an effective rate). It takes nothing more than routine skill in the art to determine amounts of active agents which are effective in a process, and one of ordinary skill in the art would be appraised of methods to determine the concentration of

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active agent which is most effective. Moreover, it would have been obvious to one of ordinary skill in the art to practice the method of Adachi et al. on a tobacco plant, as Adachi et al. teach the method to be effective against green plants, and tobacco is known in the art to be a green plant. One would be motivated to use the method of Adachi et al. on tobacco plants in an effort to decrease time from germination to tobacco processing, thus allowing the same land to potentially have an increased crop growth or a decreased time required for the crop to reach the mature age of harvesting.

In applicant's response to the last office action, applicants provided cursory comments as to why Adachi et al. would fail to make a prima facie case of obviousness. Primarily, applicants argue that Adachi et al. does not teach or suggest the use of a sulphated fuco-oligosaccharide. However, as set forth supra, Adachi et al. clearly teach that their oligosaccharide is the decomposition product of fucoidan and Matta et al. clearly show that fucoidan is a sulfated polymer of L-fucose which contains repeating subunits of 2-O-alpha-L-fucopyranoside with sulfate groups located on either C-3 or C-4 positions, thus the fucoidan of Adachi et al. is indeed a sulphated fuco-oligosaccharide. Moreover, applicants argue that Adachi et al. does not teach or fairly suggest making use of the elicitor effect of a sulphated fuco-oligosaccharide, however, this is not a limitation which is recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).



***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

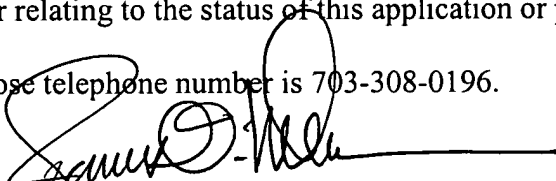
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss C McIntosh whose telephone number is 703-308-9479. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Traviss C. McIntosh III  
September 30, 2003

  
James O. Wilson  
Supervisory Patent Examiner  
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